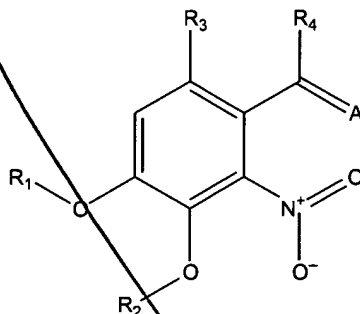


Claims

1. A compound of formula I:



- where R_1 and R_2 are the same or different and signify hydrogen, optionally substituted lower alkanoyl or aroyl, optionally substituted lower alkoxy carbonyl, or optionally substituted lower alkyl carbamoyl; R_3 signifies hydrogen or optionally substituted alkanoyl or aroyl group; R_4 signifies optionally substituted saturated or partially unsaturated lower alkyl or aryl group, or taken together with R_3 signifies an optionally substituted saturated or partially unsaturated carbocyclic ring; A signifies oxygen or NR_5 group, where R_5 signifies NHR_6 where R_6 signifies optionally substituted lower alkyl or aryl group, or OR_7 group where R_7 signifies hydrogen, lower alkyl or lower alkanoyl, or A signifies an optionally substituted alkylidene when R_4 signifies OR_8 group where R_8 signifies optionally substituted lower alkanoyl or aroyl group, and pharmaceutically acceptable salts thereof.

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2. A compound according to claim 1, wherein R_4 is substituted with at least one aryl or heterocycloalkyl group.

3. A compound according to claim 1, comprising: 6,7-dihydroxy-8-nitro-3,4-dihydro-2H-naphthalen-1-one; 5,6-dihydroxy-7-nitro-indan-1-one; 2-(3,4-dimethoxy-benzylidene)-6,7-dihydroxy-8-nitro-3,4-dihydro-2H-naphthalen-1-one; (3,4-dihydroxy-2-nitro-phenyl)-phenyl-methanone; 5,6-dihydroxy-7-nitro-indan-1-one oxime; 2-(3,4-Dimethoxy-benzylidene)-5,6-dihydroxy-7-nitro-indan-1-one; 2-

(4-dimethylamino-benzylidene)-5,6-dihydroxy-7-nitro-indan-1-one; 2-(4-dimethylamino-benzylidene)-6,7-dihydroxy-8-nitro-3,4-dihydro-2H-naphthalen-1-one; 5,6-dihydroxy-2-(4-hydroxy-3-methoxy-5-nitro-benzylidene)-7-nitro-indan-1-one; 6,7-dihydroxy-2-(4-hydroxy-3-methoxy-5-nitro-benzylidene)-8-nitro-3,4-dihydro-2H-naphthalen-1-one; 2-(3,4-dihydroxy-benzylidene)-5,6-dihydroxy-7-nitro-indan-1-one; 2-(3,4-dihydroxy-benzylidene)-6,7-dihydroxy-8-nitro-3,4-dihydro-2H-naphthalen-1-one; 1-(3,4-dihydroxy-2-nitro-phenyl)-3-phenyl-propan-1-one; 1-(3,4-dihydroxy-2-nitro-phenyl)-4-phenyl-butan-1-one; 2-(3,4-dihydroxy-5-nitro-benzylidene)-5,6-dihydroxy-7-nitro-indan-1-one; 1-(3,4-dihydroxy-2-nitro-phenyl)-pentan-1-one; 2,3-dihydroxy-1-nitro-anthraquinone; butyric acid 6-butyryloxy-2-nitro-3-(3-phenyl-propionyl)-phenyl ester; butyric acid 3-benzoyl-6-butyryloxy-2-nitro-phenyl ester; carbonic acid 4-benzoyl-2-ethoxycarbonyloxy-3-nitro-phenyl ester ethyl ester; carbonic acid 2-ethoxycarbonyloxy-3-nitro-4-(3-phenyl-propionyl)-phenyl ester ethyl ester; carbonic acid 4,5-dibenzoyl-2-ethoxycarbonyloxy-3-nitro-phenyl ester ethyl ester; 1-(3,4-dihydroxy-2-nitro-phenyl)-2-phenyl-ethanone; acetic acid 3-acetoxy-7,7-dimethyl-1-nitro-8-oxo-5,6,7,8-tetrahydro-naphthalen-2-yl ester; 1-(3,4-dihydroxy-2-nitro-phenyl)-3-morpholin-4-yl-propan-1-one; 1-(3,4-dihydroxy-2-nitro-phenyl)-3-piperidin-1-yl-propan-1-one; 1-(3,4-dihydroxy-2-nitro-phenyl)-3-pyrrolidin-1-yl-propan-1-one; 5,6-dihydroxy-2-morpholin-4-ylmethyl-7-nitro-indan-1-one; 1-[3-(3,4-dihydroxy-2-nitro-phenyl)-3-oxo-propyl]-piperidine-3-carboxylic acid diethylamide; 1-(3,4-dihydroxy-2-nitro-phenyl)-3-(3-methyl-piperidin-1-yl)-propan-1-one; 1-(3,4-dihydroxy-2-nitro-phenyl)-3-(4-methyl-piperidin-1-yl)-propan-1-one; 1-(3,4-dihydroxy-2-nitro-phenyl)-3-(octahydro-quinolin-1-yl)-propan-1-one; 1-(3,4-dihydroxy-2-nitro-phenyl)-3-(3,5-dimethyl-piperidin-1-yl)-propan-1-one; 3-(4-benzyl-piperidin-1-yl)-1-(3,4-dihydroxy-2-nitro-phenyl)-propan-1-one; 1-(3,4-dihydroxy-2-nitro-phenyl)-3-[4-(4-methoxy-phenyl)-piperazin-1-yl]-propan-1-one; 1-(3,4-dihydroxy-2-nitro-phenyl)-3-[4-(3-trifluoromethyl-phenyl)-piperazin-1-yl]-propan-1-one; 1-(3,4-dihydroxy-2-nitro-phenyl)-3-(4-propyl-piperazin-1-yl)-propan-1-one; acetic acid 6-acetoxy-2-nitro-3-(3-phenyl-acryloyl)-phenyl ester 1-(3,4-Dihydroxy-2-nitro-phenyl)-3-phenyl-propenone; 1-(3,4-dihydroxy-2-nitro-phenyl)-2-morpholin-4-yl-ethanone; 5,6-dihydroxy-7-nitro-2-[4-(3-trifluoromethyl-phenyl)-piperazin-1-ylmethyl]-indan-1-one; 5,6-dihydroxy-7-nitro-2-(4-phenyl-piperazin-1-ylmethyl)-indan-1-one; acetic acid 6-

Sub
A2

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

Sub
A2

acetoxy-2-nitro-3-phenylacetyl-phenyl ester; acetic acid 2-acetoxy-4-(1-acetoxy-2-phenyl-vinyl)-3-nitro-phenyl ester; butyric acid 6-butyryloxy-2-nitro-3-phenylacetyl-phenyl ester; carbonic acid 2-ethoxycarbonyloxy-3-nitro-4-phenylacetyl-phenyl ester ethyl ester; acetic acid 6-acetoxy-2-nitro-3-(4-phenyl-butyryl)-phenyl ester; 5 butyric acid 6-butyryloxy-2-nitro-3-(4-phenyl-butyryl)-phenyl ester or carbonic acid 2-ethoxycarbonyloxy-3-nitro-4-(4-phenyl-butyryl)-phenyl ester ethyl ester.

4. A method of treating a subject afflicted by some central and peripheral nervous system disorders, where a reduction in the O-methylation of catecholamines may 10 be of therapeutical benefit, such as mood disorders, Parkinson's disease and parkinsonian disorders, gastrointestinal disturbances, edema formation states and hypertension, which comprises administering to the subject an amount of a compound according to claim 1 effective to treat said diseases in the subject.

15 5. A pharmaceutical composition comprising a therapeutically effective amount of a compound according to claim 1 in combination with a pharmaceutically acceptable carrier.

Sub
A3

6. The use of a compound according to claim 1 in the manufacture of a medication 20 for treating a subject afflicted by central or peripheral nervous system disorders.

7. The use of a compound according to claim 1 in the manufacture of a medication for treating mood disorders, Parkinson's disease and parkinsonian disorders, gastrointestinal disturbances, edema formation states and hypertension.

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8. The use of a compound according to claim 1 in therapy.

Sub
A4

9. The use of a compound according to claim 1 in the manufacture of a medicament for use as a COMT inhibitor.

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add
A5